

3 and 4, seems to suggest that FIG. 3 of the present application is APA. However, FIG. 3 is not admitted prior art, although applicants admit that flat band voltages are well known in this technology. It makes no difference whether or not the APA is included in the rejection.

A. In the invention, the depletion mode is created through application of voltages.

Claim 29 recites that the semiconductor decoupling capacitor in consequence of providing signals of particular voltages to the gate and body. Specifically, claim 29 recites:

“a semiconductor decoupling capacitor to provide decoupling capacitance between the first and second conductors, the semiconductor decoupling capacitor including:

- (a) a gate electrode coupled to the first conductor to receive the power supply voltage,
- (b) a diffusion coupled to the second conductor to receive the ground voltage, and
- (c) a body to receive the ground voltage through the diffusion, the semiconductor decoupling capacitor thereby being in depletion mode.” (Emphasis added.)

Likewise, claim 40 recites:

“a semiconductor decoupling capacitor to provide decoupling capacitance between the first and second conductors, the semiconductor decoupling capacitor including:

- (a) a gate electrode coupled to the second conductor to receive the ground voltage,
- (b) a diffusion coupled to the first conductor to receive the power supply voltage,
- (c) a body to receive the power supply voltage through the diffusion, the semiconductor decoupling capacitor thereby being in depletion mode, ....”

B. In Manning et al., the depletion mode is created by a reduced the threshold voltage (Vt), not through the application of voltages as recited in the claims.

In contrast to the claims, Manning et al. does not teach achieving a depletion mode semiconductor decoupling capacitor through applying the specified voltages, but rather through reducing the magnitude of the threshold voltage (Vt).

For example, Manning et al. (Abstract, lines 12-13) states: “By sufficiently reducing Vt magnitude, a depletion mode MOS capacitor is formed.”

Throughout Manning et al., a reduced threshold voltage (Vt) is equated with depletion mode. For example, the phrase “reduced magnitude Vt or depletion mode PMOS capacitors” appears in many places throughout the specification of Manning et al. to suggest that a reduced magnitude Vt is the same as a depletion mode PMOS capacitor. (See, for example, col. 3, lines 3-4; col. 4, lines 55-56 and lines 63-64; col. 4, line 67 – col. 5, line 1, etc.) The specification of Manning et al. does not explain any other way of achieving depletion mode.

Manning et al. does not teach the particular combination of voltages recited in the claims. Specifically, Manning et al. does not teach “(a) a gate electrode coupled to the first conductor to receive the power supply voltage, (b) a diffusion coupled to the second conductor to receive the ground voltage, and (c) a body to receive the ground voltage through the diffusion, the semiconductor decoupling capacitor thereby being in depletion mode” as recited in claim 29. Likewise, Manning et al. does not teach (a) a gate electrode coupled to the second conductor to receive the ground voltage, (b) a diffusion coupled to the first conductor to receive the power supply voltage, (c) a body to receive the power supply voltage through the diffusion, the semiconductor decoupling capacitor thereby being in depletion mode, …” as recited in claim 40.

The APA also does not teach these limitations of the claims. As the January 21, 2003 Office action, p. 2, states: “APA does not teach that the first conductor coupled to the gate electrode carries a power supply voltage and a second conductor coupled to the diffusion carries a ground voltage, the semiconductor decoupling capacitor thereby being in depletion mode.” Since the APA and Manning et al. do not teach these limitations either alone or in combination, the rejection of claims 29 and 40 should be withdrawn.

Further, the dependent claims include various additional limitations not taught by the APA and Manning et al., either alone or in combination. For example, claims 35, 39, 46, and 50 recite the semiconductor decoupling capacitor has a flatband voltage and wherein the power supply voltage has a smaller absolute value than does the flatband voltage. The flatband voltage was understood before the invention and having power supplies of less than 1 volt have been proposed before this invention. However, these claims combine this power supply voltage with depletion mode capacitors created through the application of voltages and these claims should be allowed.

Other differences between the claims and Manning and the APA are shown in table 1 of the application.

Respectfully submitted,



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